

ABSTRACT OF THE DISCLOSURE

An adaptive personal repeater transparently mediates signaling between a wireless communications device (WCD) and a wireless communications network. The repeater includes a Directional Donor Unit (DDU) and a Subscriber Coverage Unit (SCU). The DDU maintains a network link with a transceiver (base station) of the wireless communications network. The SCU maintains a local link with the WCD within a personal wireless space of the repeater. The SCU generally includes, means for detecting respective uplink and downlink channel frequencies of the wireless communications device, and control means for controlling at least the SCU to selectively receive and transmit signals within the detected uplink and downlink channel frequencies. Total system gain is divided between the DDU and the SCU, so that a separate gain and system control unit is not required. This division of system gain also enables high-performance on-frequency repeater functionality to be obtained without the use of high-cost components.

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